

REMARKS

Applicants thank Examiner Jerome Grant II for having allowed claims 25 through 27, and for having indicated that certain claims would be allowed if suitably amended. Those eleven claims — claims 3 through 9, 14, 17, 18 and 21 — have now been amended (either directly or indirectly) as specified.

The Applicants are also grateful to the examiner for having pointed out the ambiguity in claim 1 and some of its dependent claims, in regard to the term "recombine". (That topic is discussed below.) Applicants apologize for this confusion in the original wording, and regret the inconvenience that resulted.

In the Official Action it is said (page 2, section 1) that two patent numbers are missing in the specification text on page 1. One of those numbers has now been supplied; however, the other application evidently has not yet been issued. The passages involving both applications have been revised appropriately.

Section 112 rejections

In the Official Action (page 2, section 2) it is said that claims 1, 2, 10 and 13 are indefinite due to use of the word "recombine" — when no earlier combining step has been

recited. To resolve this matter, it will be helpful first to elaborate the original intent of the wording as presented.

The term "recombine" was not used in contrast to an earlier combination step, but rather in contrast to an earlier dissociation step. That is, the original language "modify quantity of black ink . . . and recombine the modified quantity . . . with the initial representations" was meant to convey that the quantity of black ink was:

- first isolated (from the other data) for modification, and then
- modified, in isolation, and then
- recombined (with the other data).

Although it is believed that this meaning is clear in the original claim language as first presented, in the interest of advancing this case toward issue claims 1 and 2 have now been amended (see line 10 of each of these two claims) — as invited in the Official Action at page 6, section 6 — to make this meaning even more clearly emphatic. In addition, the amended wording is now inherently operative in the two other cited claims 10 and 13, which depend from amended claims 2 and 1 respectively — and also in claim 12, which likewise depends from claim 1.

It is assumed, however, that the Section 112 rejection articulated with respect to dependent claims 2, 10 and 13 must also be applicable to other claims depending directly or indirectly from claim 1. Accordingly, in the interest of advancing this case toward issue, the same wording change has been expressly inserted into claims 3, 11 and 14 — and thereby their dependent claims 4 through 9 — even though the Official Action did not expressly reject those claims.

Section 102 rejection

In the Official Action it is further said (page 3, section 3) that claims 1, 11 through 13, 15, 16, 20, and 22 through 24 are anticipated by Horiguchi. For the reasons presented below, the Applicants respectfully traverse.

INTRODUCTION REGARDING HORIGUCHI — Whereas the Applicants' invention as claimed is about actually preparing to perform incremental hardcopy printing of images onto a printing medium (e. g., paper), Horiguchi's invention is not at all about such a technology. Rather, Horiguchi has an invention that relates only to simulation of printing.

More specifically, Horiguchi has devised apparatus and method for creating a simulated appearance, on a computer screen, of how a document would look if printed. Although Horiguchi somewhat misleadingly begins his text by saying that his invention (emphasis added) "generally relates to a color printing technique," he immediately corrects himself to say that really it is (emphasis added) "more particularly a color simulating technique".

This is entirely clear throughout the patent, and specifically from Horiguchi's:

- title, which is (emphasis added) "Color Printing Process Simulator";
- abstract, in the second line and also in the final line (emphasis added), "method for reproducing a color image on a color monitor screen" and "image displayed on the color monitor";

- Fig. 1, in which the final two blocks are the "Video Amp." 10 and the "RGB Monitor" 11 — not any printer;
- column 1, lines 6 through 24, in which he three times uses the word "simulation" — and thrice refers to display of the simulated printed image on a "monitor" or "screen";
- column 1, lines 63 through 64, again referring to a "color monitor screen".

It may be confusing that Horiguchi takes into account the color of paper assumed in generating the simulation — but it is absolutely clear that he is not actually printing on the paper. Rather he is only taking into account how the color of the paper would affect the appearance of the image if it were to be printed on the paper.

This confusion is perhaps exacerbated by the slightly awkward 1981 translation from the original Japanese. At that time, translation quality in patent documents emanating from Japan was not what it is today.

Nonetheless Horiguchi's true meaning as to role of paper color is seen unambiguously from, among other passages:

- column 1, lines 41 and 42;
- column 3, lines 7 through 9;
- column 5, lines 67 and 68;
- column 6, lines 3 through 5; and
- column 6 at lines 47 through 49, where he says that (emphasis added) —

"the color of paper . . . can be corrected or adjusted"

Of course it is not meaningful to "correct" or "adjust" the color of paper when actually printing on paper. Horiguchi goes on, moreover, at lines 49 through 52:

"In this manner the color printing process can be easily and precisely simulated with the aid of the color image displayed on the color monitor."

This accurate understanding of the Horiguchi disclosure can now be applied to further specific assertions in the Official Action, as to particular claims, respectively. These will be taken up below.

SPECIFIC ASSERTIONS AS TO PARTICULAR CLAIMS — In the Action at page 3, section 3, it is said without explanation that Horiguchi anticipates CLAIM 1. To more fully distinguish Horiguchi as outlined in the foregoing introduction, that claim has been clarified by reciting expressly that the invention relates to "preparing for actual hardcopy incremental printing" — rather than merely simulation of such printing as in Horiguchi.

In the Action at page 3 it is also said that Horiguchi anticipates CLAIMS 11 through 13, 15, 16, 20 and 22 through 24. Claims 11 through 14 have now been amended to further emphasize the distinction relative to Horiguchi's simulations.

As to CLAIM 11, however, it is also said in the Official Action that Horiguchi contains a teaching about dark vs. light colorants. In this field, it is very well established that the words "dark colorants" and "light colorants" do not conventionally refer to black and chromatic inks respectively — as proposed in the Action — but, instead, substantially always refer to undiluted vs. diluted colorants.

The former are in essence the full-strength colorants classically used in inkjet printing. Additional ink cartrid-

ges loaded with the latter (i. e. diluted colorants) are provided in many printing machines to produce more-subtle colorimetric gradations.

This practice is particularly important and well known for use in highlight regions where very light color washes can problematically lead to intrusively excessive granularity. Hence claim 11 is distinguished from Horiguchi not only in terms of actual printing vs. simulations, but also in terms of its original recitation about light and dark colorants.

As to CLAIM 12, it is said in the Action that chromatic colorants are "passed through without modification to the adder 4". While this much may be true, Applicants submit that the reasonably clear original intent of the claim language is that such colors are passed through without modification all the way to the end of the process, not merely to an "adder".

Nevertheless, in the interest of advancing this case toward issue, claim 12 has been amended to even more clearly emphasize this distinction. The claim recites that the pass-through is "substantially to said actual hardcopy printing."

As to CLAIM 13 — also discussed in the Official Action at page 3 — besides depending from claim 1 (amended as noted above), that claim also expressly recites, as originally filed, "applying the data file . . . in printmasking for hardcopy printing." Horiguchi, by contrast, actually says nothing whatsoever about printmasking — or about any other makeready for actual hardcopy printing. With respect, Horiguchi's abstract and column 6, cited in the Action with regard to printmasking, actually are not seen to contain any such reference and thus are inapposite.

CLAIM 15 (also discussed in the Official Action at the bottom of page 3) already includes original limitations of (emphasis added) —

"An incremental printing system for . . . dots deposited on a printing medium"

and

"an output incremental printing stage for printing the image from the modified data."

In the Official Action, however, it is said that Horiguchi "teaches an incremental printing system [with] dots deposited on a printing medium . . . and an output incremental printing step performed by a stage for printing".

Applicants respectfully submit that this statement is factually in error, for all the reasons pointed out in the general introduction to Horiguchi presented above (pages 18 through 20). As will be understood from that discussion, the Horiguchi invention never prints any dot on any printing medium, particularly not by incremental printing or on paper.

As to CLAIM 16 (page 4 of the Action), first this claim is novel over Horiguchi simply by virtue of dependence from claim 15, discussed just above. Furthermore claim 16 also expressly recites (emphasis added) "an output for directing [signals] to the output stage" — i. e., the "output incremental printing stage for printing" recited in claim 15.

Analogously CLAIM 20 (also discussed at page 4 in the Action) already includes original limitations of "incremental-printing image-preparation method" and "preparing for incremental printing". As noted above, Horiguchi makes clear that his invention not only never prints anything but furthermore

never actually prepares for actual, hardcopy output printing — but rather only simulates it.

As to CLAIM 22 (discussed bridging pages 4 and 5 in the Action), that claim has now been amended to expressly recite that the last step of the method implements color changes "in actual incremental hardcopy printing." This limitation distinguishes Horiguchi as set forth above.

As to CLAIM 23, it is said in the Official Action (center of page 5) that Horiguchi "does not address perceptual colors." It is not clear to the undersigned whether this is true or not, for Horiguchi's principal thrust is to cause his computer monitor to be perceived as identical to the expected appearance of a hardcopy printout from the same input data. Therefore it is proposed to defer this issue pending allowance of claim 23 as depending from claim 22, whose recitation of "actual incremental hardcopy printing" distinguishes Horiguchi as mentioned above.

The situation as to CLAIM 24 (page 5 of the Action) is analogous to that of claim 13: besides depending from claim 22, claim 24 also expressly recites, as originally filed, "applying the data file . . . to printmasking for hardcopy printing." Horiguchi is believed to say nothing whatsoever about printmasking — or about any other makeready for actual hardcopy printing.

Claim objections

As mentioned earlier, the Official Action (page 6, section 5) objects to claims 3 through 9, 14, 17, 18 and 21 as

dependent upon a rejected base claim. All of those claims have been rewritten generally as prescribed in the Official Action, and accordingly are believed to be in condition for allowance.

Conclusion:

In view of the foregoing amendments and remarks, Applicants respectfully request the Examiner's favorable reconsideration and allowance of all the claims now standing in this case.

It is respectfully requested that, should there appear any further obstacle to allowance of the claims herein, the Examiner telephone the undersigned attorney to try to resolve the obstacle.

Respectfully submitted,



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